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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/921,756	08/06/2001	Mark Taunton	1875.1780000	8767

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STERNE, KESSLER, GOLDSTEIN & FOX PLLC
1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER

TSE, YOUNG TOI

ART UNIT PAPER NUMBER

2637

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/921,756

Applicant(s)

TAUNTON, MARK

Examiner

YOUNG T. TSE

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 08062001.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because the block pertaining elements (12, 14, 16, 24, 28, 30, 32 and 158) in Figure 1 and (32, 126, 158 and 160) in Figure 3 need to have descriptive labels in conformance with 37 CFR 1.84(n) and 1.84(o). For example, a descriptive label of "Buffer" should be inserted into both Figure 1 and Figure 3 to properly describe element (158). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: the reference sign "154" mentioned in the specification on page 21, line 32 is not shown in Figure 2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the receiver recited in claim 27 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet,

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and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities: page 1, line 10, Applicant is requested to update the reference numbers to the U.S. application numbers 09/921,758 and 09/921,757 including filing dates; page 19, line 11, "a first data path" appears to read "a fast data path"; page 21, line 13, "DAC 156" appears to read "DAC 148". Appropriate correction is required.

5. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

6. Claims 1-24 are objected to because of the following informalities:

Claim 1, line 12, "the symbol" should be "the buffered symbol". Also see claim 17 (line 12),

Claim 1, line 20, "a number" should be "the number". Also see claim 17 (line 17), claim 19 (line 26), and claim 24 (line 24).

Claim 1, line 21, "the buffered symbol" appears to read "the regenerated symbol". Also see claim 3 (line 10), claim 15 (line 18), and claim 17 (line 19).

In line 1 of both claims 2 and 3, "a regenerated" should be "the regenerated".

Claim 6, line 2, "and/or" should be "or".

Claim 7, line 4, "at least" should be "the at least".

Claim 9, lines 2-3, "said idle cell" should be "said at least one idle cell".

Claim 14, lines 7 and 9, "tones;" and "analoguefront" should be "tones; and" and "analogue front", respectively.

Claim 19, line 5, "each pair of" appears to read "each of the"; line 23, "preprocessed data" should be "the preprocessed data".

Claim 21, line 2, "digital to" should be "the digital to".

Claim 23, line 10, "end," should be "end; and"; line 11, "and a" should be "a".

Claim 24, line 5, "each pair of" appears to read "each of the".

The dependent claims 4-5, 8, 10-13, 16, 20 and 22 are depended upon the independent claims 1, 15 and 19.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. Claims 1-16 and 19-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 (line 16), claim 14 (lines 12-13), claim 15 (lines 13-14), claim 19 (lines 23-24 and 27), claim 23 (lines 14-15), and claim 24 (lines 3, 19-20, 21-22, 25, and 27-28), the phrases “the regenerated data”, “the subsequent intermediate processing stages”, “the subsequent intermediate processing stages on the regenerated data”, “the modulated signal”, “the transforming step”, “the input data”, and “the transmitted data stream” all lack antecedent basis.

Claim 4 is vague and indefinite since it is unclear how much time is considered sufficient processing time to generate a symbol before regenerating that symbol (the specification also seems lack the support of the claimed limitation).

Wherein claim 2-13, 16 and 20-22 depend upon claims 1, 15 and 19.

In claim 22, lines 1-2, the phrase “wherein the modeling unit is a further instance of the preprocessing module” is not understood.

Both independent claims 19 and 24 are apparatus claims, which recite at least a processor, an inverse Fourier transform module, a buffer, an analogue front end, a modeling unit, a peak detector, and a regeneration control system. However, it is improper in an independent to include the combination of the apparatus and a method to carry out the steps by the regeneration control system.

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1-19 and 23-24 are provisionally rejected under the judicially created doctrine of double patenting over claims 1-5, 9-20, 23-25 and 27 of copending Application No. 09/921,758. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: although independent claims 1, 14, 15, 17, 19, 23 and 24 of the instant application include the additional subject matter of modeling a peak amplitude that a buffered symbol would contain after the subsequent processing in an analogue front end prior to the comparison of the peak amplitude with a threshold over claims 1-5, 9-20, 23-25, and 27 of the copending Application No. 09/921,758, as discussed in the instant application, the modeling of the

peak amplitude of the analogue front end is well known to those skilled in the art in a modulator or transmitter. Therefore the conflicting claims 1-19 and 23-24 are not patentably distinct from each other of claims 1-5, 9-20, 23-25, and 27 since modeling the peak amplitude of the analogue front end is well known to those skilled the art.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Allowable Subject Matter

10. Claims 17-18 would be allowable if rewritten or amended to overcome the objection(s) set forth in this Office action.

11. Claims 1-16 and 19-24 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

12. Claims 1-19 and 23-24 would be allowable if rewritten or amended to overcome the double patenting rejection by submitting a terminal disclaimer set forth in this Office action.

13. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to show or suggest a method or apparatus for multi-tone signaling of regenerating a regenerated symbol by amending predetermined intermediate data such that an input data of a plurality of intermediate processing stages is still represented by an intermediate data, carrying out the subsequent

intermediate processing stages on the amended intermediate data to regenerate preprocessed data, and inverse Fourier transforming the regenerated preprocessed data to obtain the regenerated symbol.


Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References Sloane, Mestdag, Humphey et al., and Bourget et al. are made of record as describing a system and method for reducing peak amplitude to a peak detector in multicarrier modulation or transmitters.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOUNG T. TSE whose telephone number is (571) 272-30513051. The examiner can normally be reached on Monday-Thursday and alternative Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The Central FAX Number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


YOUNG T. TSE
Primary Examiner
Art Unit 2637